

Chapter 4:

State and Tribal Efforts

The states and tribal entities receiving PCSRF funds are engaged in numerous efforts to protect, restore, and conserve salmon populations. Funds have been allocated by congressional direction and in some cases are earmarked for specific projects or programs. In general, PCSRF funds are provided to a state or tribal oversight entity that solicits projects, reviews potential projects for scientific and technical merit, ensures the projects reflect appropriate restoration or conservation priorities, and distributes the funds. In the case of states, these funds are matched with state funds or other resources.

The states have developed numerous manuals and guides to ensure that project recipients are efficient and effective in undertaking salmon recovery projects. Examples include Washington's *Roadmap for Salmon Habitat Conservation at the Watershed Level* and *Guidance on Watershed Assessment for Salmon*; Oregon's *Aquatic Habitat Restoration and Enhancement Guide* and *Oregon Watershed Assessment Manual*; and California's *Salmonid Stream Habitat Restoration Manual*. The states have also developed comprehensive monitoring and evaluation plans to validate the effectiveness of the restoration projects, such as the *Washington Comprehensive Monitoring Strategy and Action Plan for*

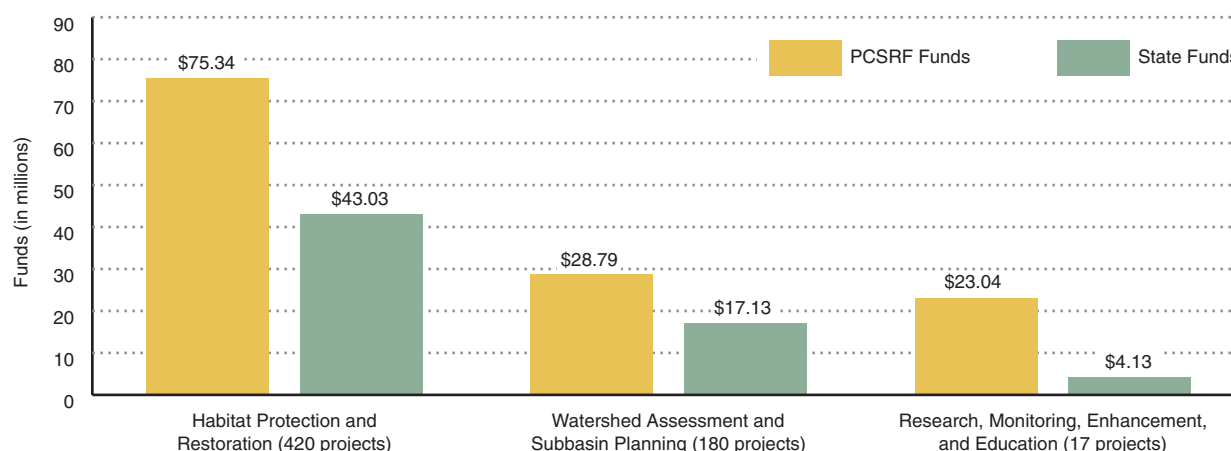
Watershed Health and Salmon Recovery, *Oregon Plan Monitoring Strategy*, and California's *Monitoring the Implementation and Effectiveness of Fisheries Habitat Restoration Projects*.

This chapter presents a summary of ongoing PCSRF efforts at the state and tribal level to restore and conserve salmon populations. The chapter describes the process and timing used by each state agency or tribal entity to distribute funds; locations of projects; number of projects; and how funds are allocated toward planning and assessment, habitat protection and restoration, and other activities.

Washington

The State of Washington's salmon recovery efforts have focused primarily on protecting and restoring habitat for salmon. Exhibit 4-1 summarizes the allocation of funds and projects in Washington from FY 2000–2004.

Exhibit 4-1: Washington's Distribution of PCSRF and State Funds, FY 2000–2004



As of February 2005, Washington had committed about \$130.4 million in PCSRF funds. Federal funding was supplemented by over \$64 million in state salmon conservation and restoration funds, and by approximately \$76 million in additional local and private matching funds. These funds and others leveraged over 560,000 volunteer hours in FY 2000–2004.⁴

In Washington, PCSRF and matching state funds are allocated through a competitive grant distribution process that begins in spring and ends the following January (see the timeline in Exhibit 4-2). The dates for this distribution process will change in the 2005 funding cycle. In 2004, 188 project proposals were received and 105 were funded.

Washington has reported the following salmon habitat restoration accomplishments since 1998:

- » Returned over 300,000 acre-feet of water to salmon-bearing streams.
- » Removed over 1,480 fish passage barriers.
- » Completed more than 560 projects to improve water quality problems; 57 percent of watersheds have a good index of water quality for salmon.
- » 64 percent of hatchery programs meet requirements of the Endangered Species Act.
- » Volunteers have donated more than 150,000 hours to salmon recovery.
- » Approved the purchase of nearly 11,000 acres for salmon restoration.⁵

In addition to supporting those actions, Washington's FY 2000–2004 PCSRF allocation is being used to:

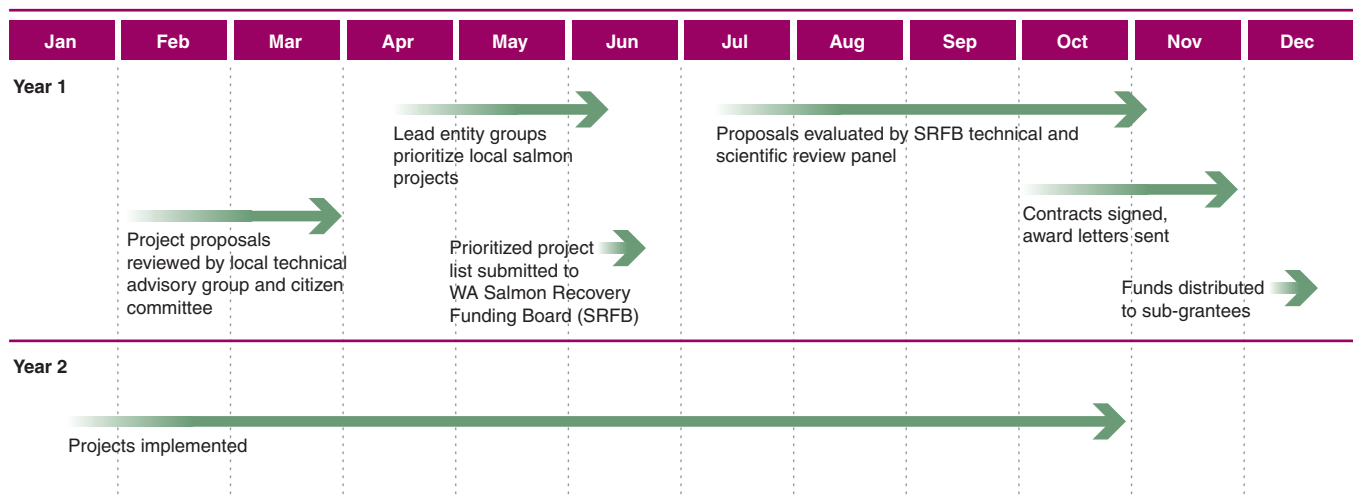
- » Install or upgrade 419 fish screens to prevent fish from entering irrigation channels and other areas with unsuitable habitat.
- » Protect about 150 miles of stream banks through land acquisition.
- » Acquire 13,093 acres of habitat to conserve salmon habitat.
- » Restore about 253 miles of stream habitat for salmon.
- » Treat 53,627 acres of estuaries to improve habitat conditions for salmon.

The locations of state and tribal PCSRF projects in Washington are shown in Exhibit 4-3. More information about Washington's salmon conservation and restoration efforts is available from the Governor's Salmon Recovery Office at <http://www.governor.wa.gov/gsro/> and from the Salmon Recovery Funding Board at <http://www.iac.wa.gov/srfb/>.

⁴ State of Washington, Governor's Salmon Recovery Office, 2004 *State of Salmon in Watersheds Report*, (Olympia, WA: Governor's Salmon Recovery Office, 2004), 17.

⁵ State of Washington, 66.

Exhibit 4-2: Washington PCSRF Funds Distribution Timeline





Before

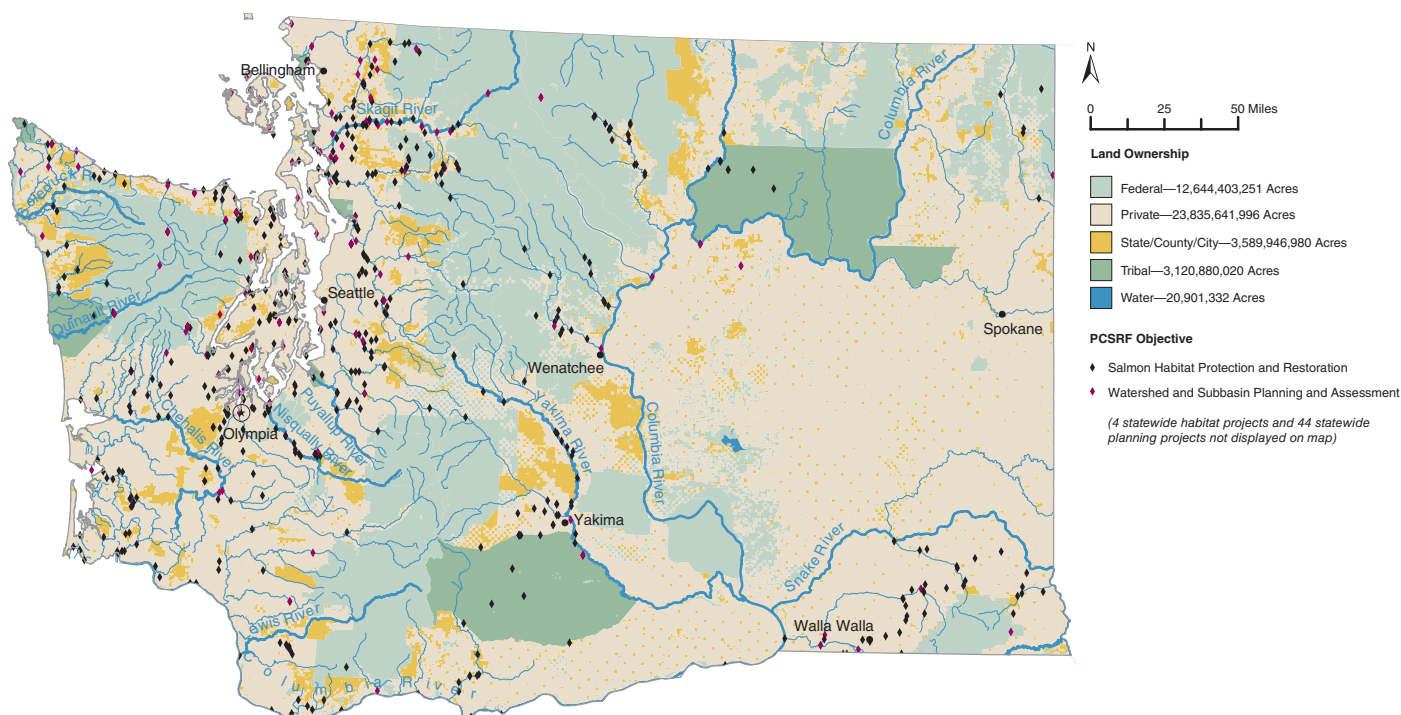


After

Large Woody Debris Placement

In 2004, the Washington Salmon Recovery Funding Board (SRFB) committed PCSRF funds toward instream habitat restoration within Higgins Creek and side channel restoration along the Nooksack River. Both projects involved placing large woody debris (e.g., logs) in specific places along the watershed. Because of past logging, both watersheds lacked natural accumulation areas for large fallen trees. The replacement of large woody debris improves salmon habitat by serving as shelter for rearing juveniles and regulating stream temperatures. Crews placed 300 to 400 large trees in 30 to 40 sites along Higgins Creek and 200 trees along the Nooksack River. The large trees were transported using helicopters and were specifically placed in areas along the water courses where woody debris would naturally accumulate. The improved habitat conditions will contribute to the successful rearing of juvenile coho salmon, pink salmon, and steelhead inhabiting Higgins Creek and the Nooksack River.

Exhibit 4-3: Location of State and Tribal PCSRF Projects in Washington



Oregon

The State of Oregon combines PCSRF funds, state lottery funds, and other resources to support salmon conservation and restoration projects in areas where salmon are threatened or endangered. Because of requirements in Oregon state law, the majority of state salmon recovery funding must be allocated to habitat projects. Oregon has therefore used most of its PCSRF allocation to support other activities critical to the success of salmon recovery, such as support for watershed councils; watershed assessments; and monitoring of fish populations, habitat conditions, and the effectiveness of restoration activities.

Oregon has committed about \$58 million in PCSRF funds and about \$82 million in matching state funds for salmon recovery efforts as of February 2005. Exhibit 4-4 shows the distribution of funds in Oregon.

Oregon distributes PCSRF and state salmon recovery funds through a competitive process that is initiated twice a year. Each cycle takes approximately 21 weeks (see Exhibit 4-5).

Oregon has reported the following watershed restoration outcomes from 1995 to 2003:⁶

- » Restored 2,730 miles of riparian habitat.
- » Decommissioned and closed 2,045 miles of roads to reduce sedimentation in streams.
- » Improved 1,871 stream crossings for fish.

- » Made 2,558 miles of habitat accessible to fish through stream crossing improvements.
- » Retired 90 dams.

PCSRF (and matching state funds, in particular) support the following salmon recovery activities in Oregon:

- » Treat 1,608 stream miles to improve habitat conditions for salmon.
- » Remove 511 fish passage blockages.
- » Restore 6,907 acres of wetlands and create 1,869 acres of artificial wetlands to improve habitat conditions for salmon.
- » Conduct 53 limiting factor assessments for salmon-bearing watersheds.
- » Monitor 1,169 stream miles of salmon habitat.

The locations of state and tribal PCSRF projects in Oregon are shown in Exhibit 4-6. More information about Oregon's salmon conservation and restoration efforts is available at <http://oregon.gov/OWEB/>.

⁶ Oregon Watershed Enhancement Board, *Oregon Plan for Salmon and Watersheds: Biennial Report 2003-05 Synopsis*, 2005, available at http://oregon.gov/OWEB/docs/pubs/BiennialReport_2003-2005_Synopsis.pdf.

Exhibit 4-4: Oregon's Distribution of PCSRF and State Funds, FY 2000–2004

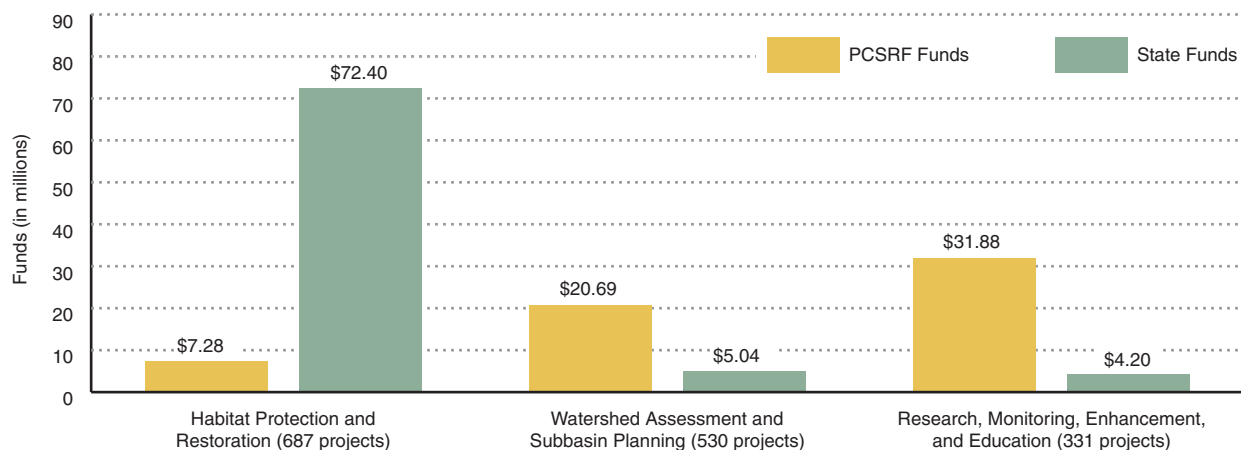
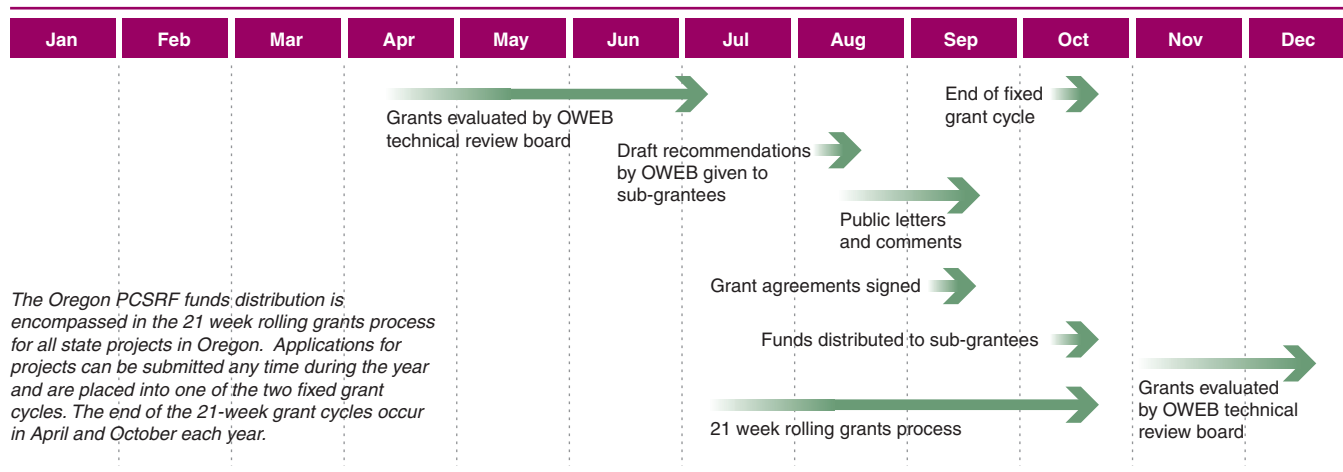
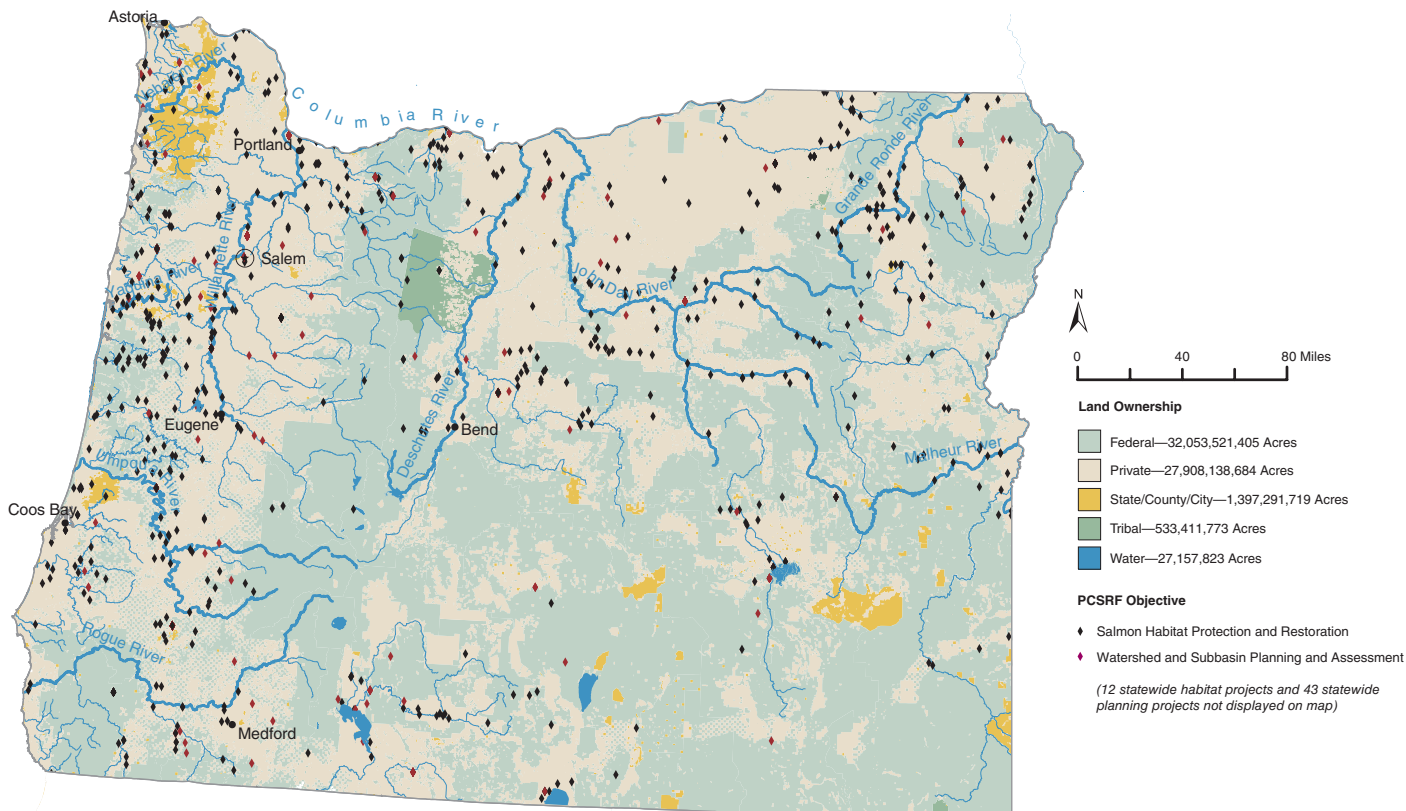


Exhibit 4-5: Oregon PCSRF Funds Distribution Timeline**Exhibit 4-6: Location of State and Tribal PCSRF Projects in Oregon**

Culvert Replacement

In 2003, the Oregon Watershed Enhancement Board (OWEB) allocated PCSRF funds towards repairing the Cedar Creek/Gilchrist Road stream crossing. Two old 72" corrugated metal culverts posed as barriers to salmon under normal and low flow conditions. The unsuitable metal pipes were replaced with an open-bottom, concrete box structure. The new structure is designed to pass the 100-year flood requirement, reduce water velocity, and allow debris to pass, thereby forming a natural streambed. Installing this new fish passage opened 18.16 miles of spawning and rearing habitat for coho salmon, steelhead, and cutthroat trout.



Before



After

California

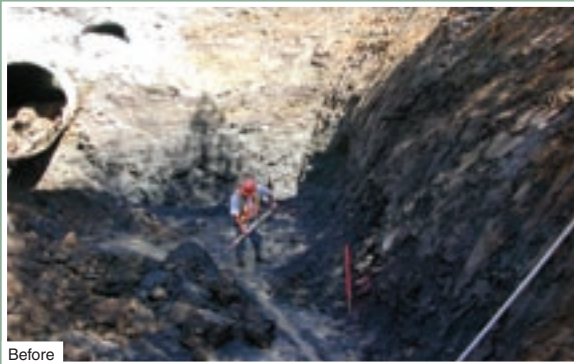
The State of California invests the majority of PCSRF and state salmon recovery funds in projects to protect and restore salmon habitat in coastal areas of California. Approximately \$51 million of California's PCSRF allocation from FY 2000–2003 and \$39 million in state funds have been committed to salmon conservation and restoration activities (see Exhibit 4-7).

Because California's subgrant distribution process does not end until June of the year following receipt of PCSRF funds, FY 2004 funds had not been committed to projects as of February 2005. Exhibit 4-8 depicts the process used for California's allocation of PCSRF and state funds. Between FY 2000 and 2003, over 1,700 project proposals were received and 801 proposals were funded.

Since 1981, when California initiated its Fisheries Restoration Grant Program, more than 400 projects to improve instream fish habitat; more than 350 projects to address diversions to fish migration; more than 300 projects to reduce sedimentation in streams; and more than 550 projects to evaluate watersheds and plan responses, rear anadromous fish, educate, and restore riparian habitat have been supported.⁷

Through PCSRF-supported projects for FY 2000–2003 alone, California is conducting the following salmon conservation and restoration activities:

⁷ California Department of Fish and Game, *California Coastal Salmon and Steelhead Restoration* (Sacramento: California Department of Fish and Game, undated), p. 3.



Culvert Replacement

In summer 2001, the Humboldt County Public Works Department used PCSRF and other funds to replace the Lindsay Creek culvert at Murray Road with a 20-foot, bottomless arch culvert to provide fish passage for adult and juvenile fish and to comply with the 100-year flood requirement. The old culvert created a water velocity barrier to all juvenile salmonids and a temporary barrier to migrating adults. There was also over 3,600 cubic yards of sediment overlying the culvert that could have washed downstream if the culvert were overtopped from flooding.

The new crossing contains a natural bottom that allows the channel to flow through the crossing without any jumps. The 10-foot scour pool formerly at the culvert outlet is now a gravel bar with grasses, berries, and willows stabilizing the banks and re-establishing fish habitat along the channel.

Lindsay Creek, a tributary of the Mad River, is a priority watershed for recovery of Pacific Salmon. It is one of the few streams in Northern California with four migrating salmonid species, including Chinook and coho salmon, steelhead, and coastal cutthroat trout. Over seven miles of fish habitat has been restored in the watershed by the six culvert barriers replaced since 2001.

- » Restore about 300 stream miles of salmon habitat.
- » Remove or upgrade 2,772 blockages to improve fish passage.
- » Open about 42 miles of stream habitat for salmon through fish passage projects.
- » Install or upgrade 67 fish screens to prevent salmon from entering areas with unsuitable habitat (all completed).
- » Protect about 25,245 acres of habitat through land acquisition.
- » Conduct 20 limiting factor assessments for salmon-bearing watersheds.
- » Monitor about 240 stream miles of salmon habitat.

Exhibit 4-9 shows the distribution of projects funded by PCSRF and state matching funds in California. More information about California's salmon recovery efforts is available at <http://www.dfg.ca.gov/nafwb/fishgrant.html>.

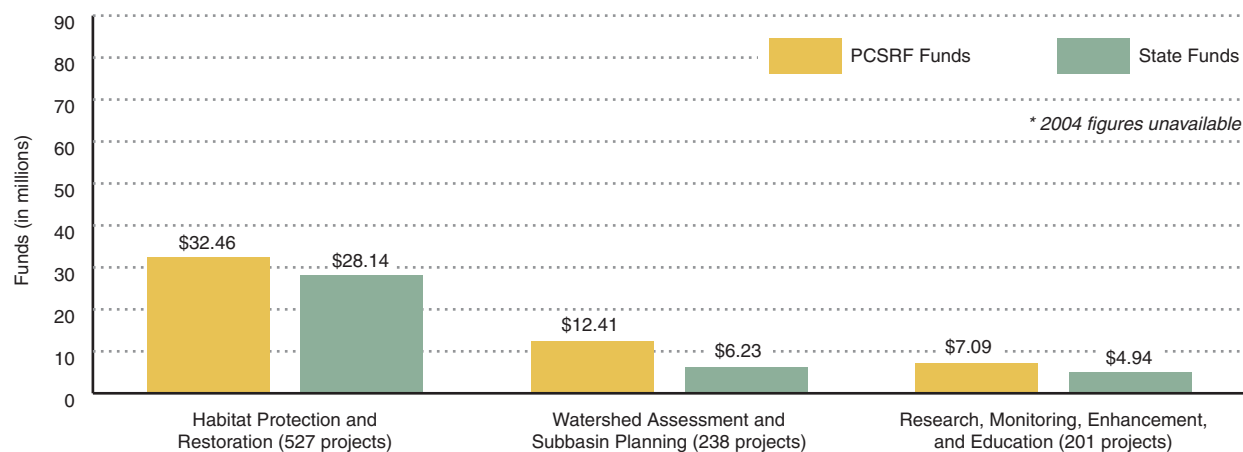
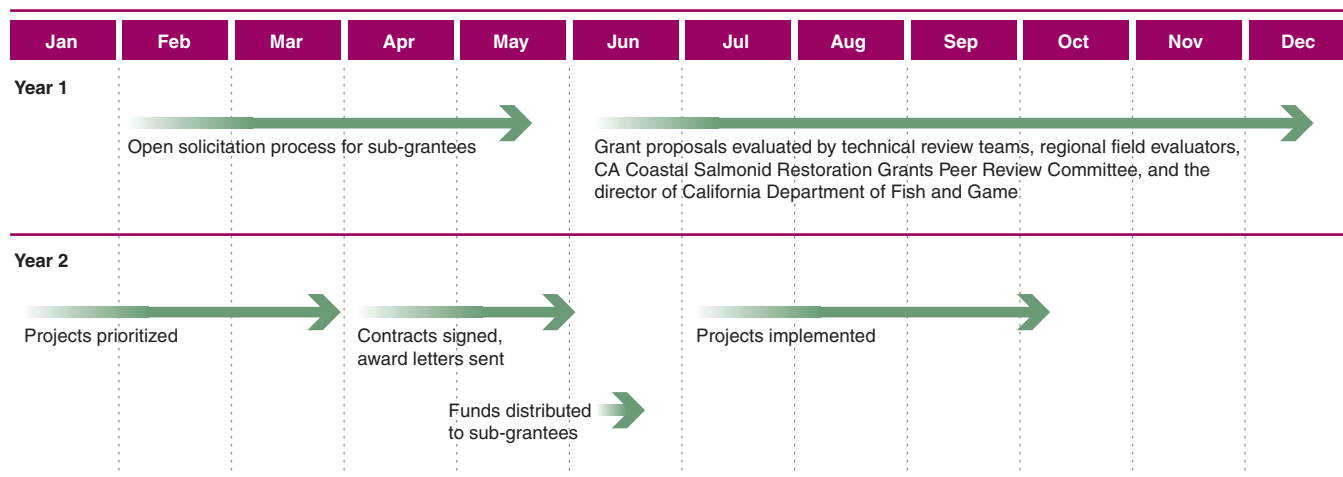
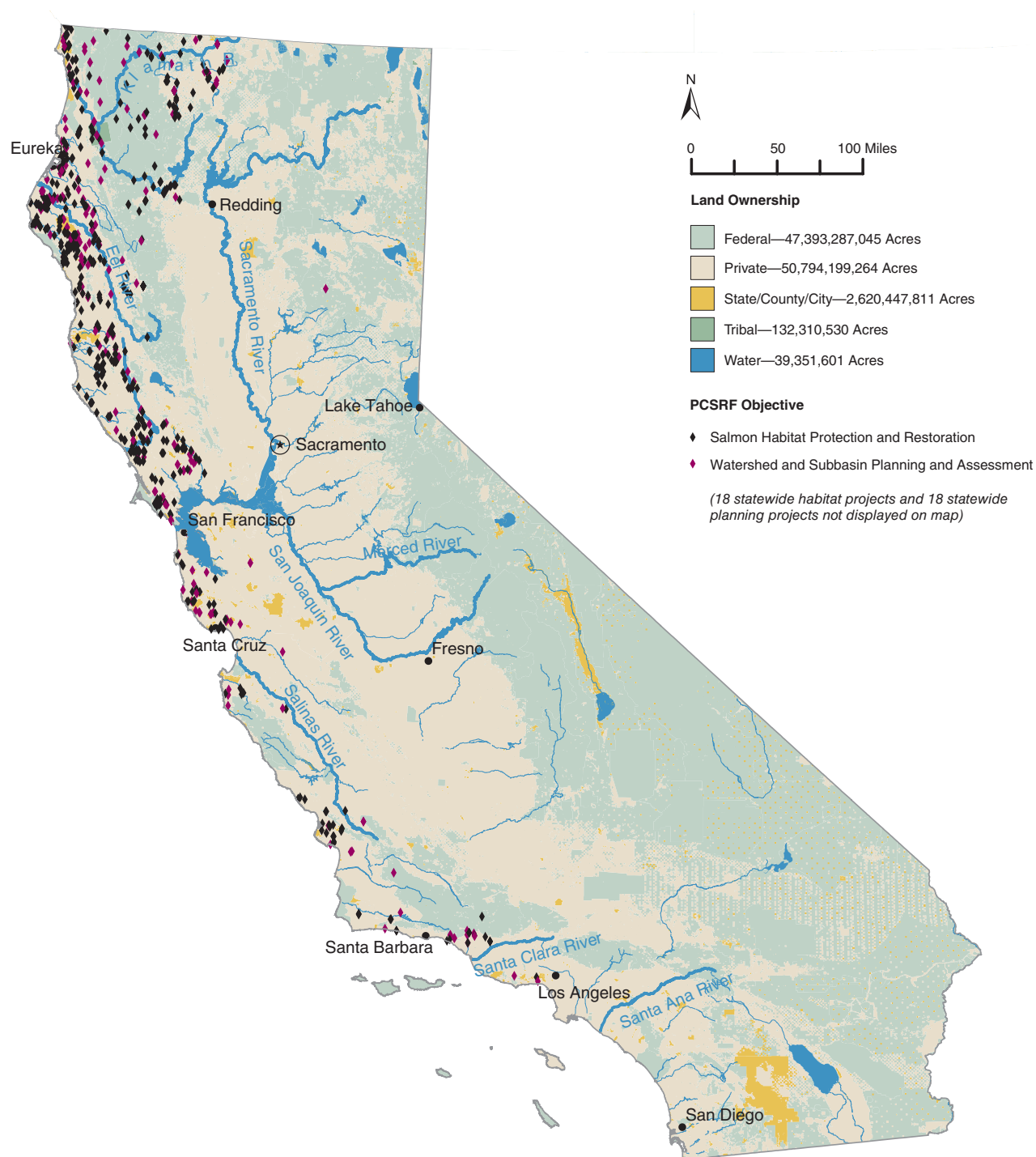
Exhibit 4-7: California's Distribution of PCSRF and State Funds, FY 2000–2003***Exhibit 4-8: California PCSRF Funds Distribution Timeline**

Exhibit 4-9: Location of State and Tribal PCSRF Projects in California



Idaho

Idaho first received PCSRF funds in FY 2004. Of the \$4.73 million in PCSRF funds Idaho committed, 92 percent has been directed to habitat restoration efforts. The remainder of Idaho's PCSRF funding has supported research, monitoring, enhancement, and education projects (6 percent) and watershed assessment and sub-basin planning projects (2 percent). State matching funds have totaled \$2.1 million.

In its first grant cycle, Idaho solicited proposals for salmon recovery projects in July and August 2004 and awarded grants in September 2004. In future years, Idaho plans to solicit grant applications in March and award funds to projects by August (Exhibit 4-10).

Idaho's FY 2004 PCSRF and state funds are being used to support the following salmon conservation and restoration activities:

- » Restore approximately 64 stream miles of salmon habitat.
- » Remove 28 blockages to improve fish passage and open 6 miles of stream habitat through fish passage projects.
- » Treat 1,159 acres of upland habitat to improve conditions for salmon.
- » Protect 1,800 acres and about 16 miles of stream bank habitat for salmon through land acquisition.

The distribution of projects in Idaho is shown in Exhibit 4-11. More information about Idaho's salmon recovery efforts is available at http://osc.idaho.gov/list/salmon_steelhead.html.

Exhibit 4-10: Idaho FY 2004 and FY 2005 (Proposed) Funding Distribution Timeline

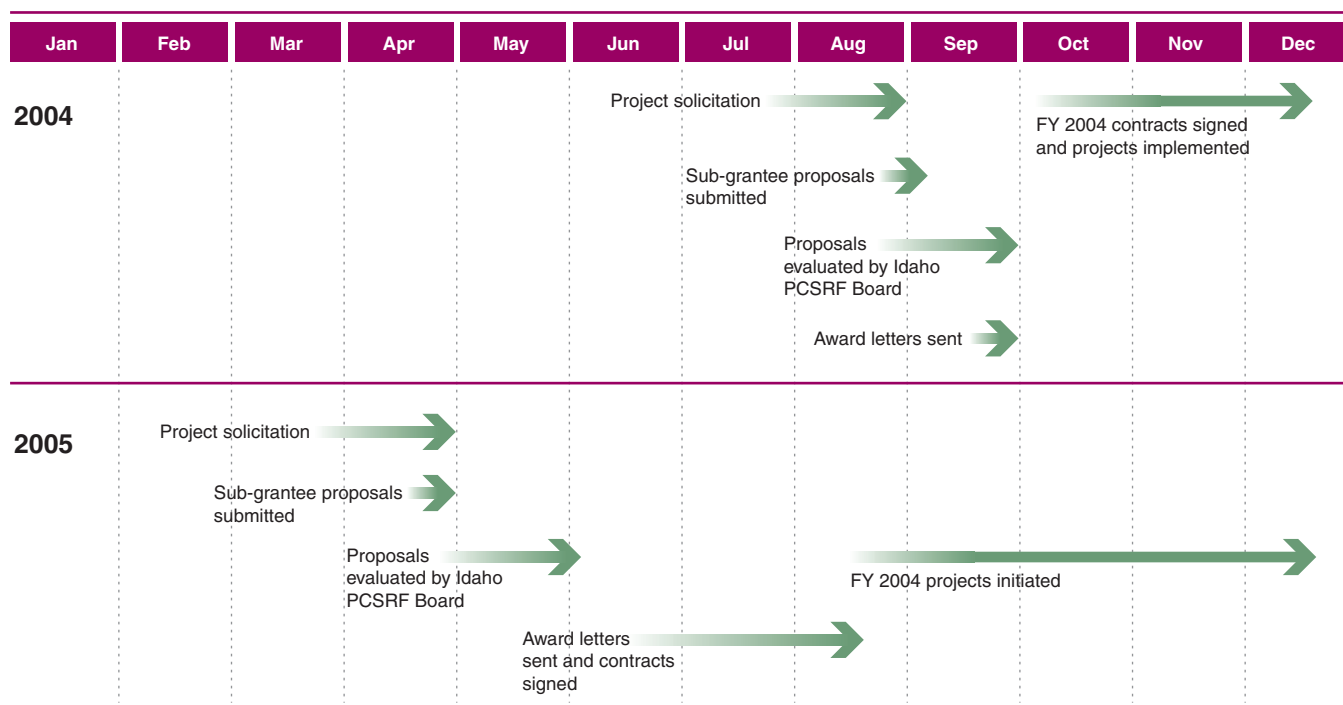
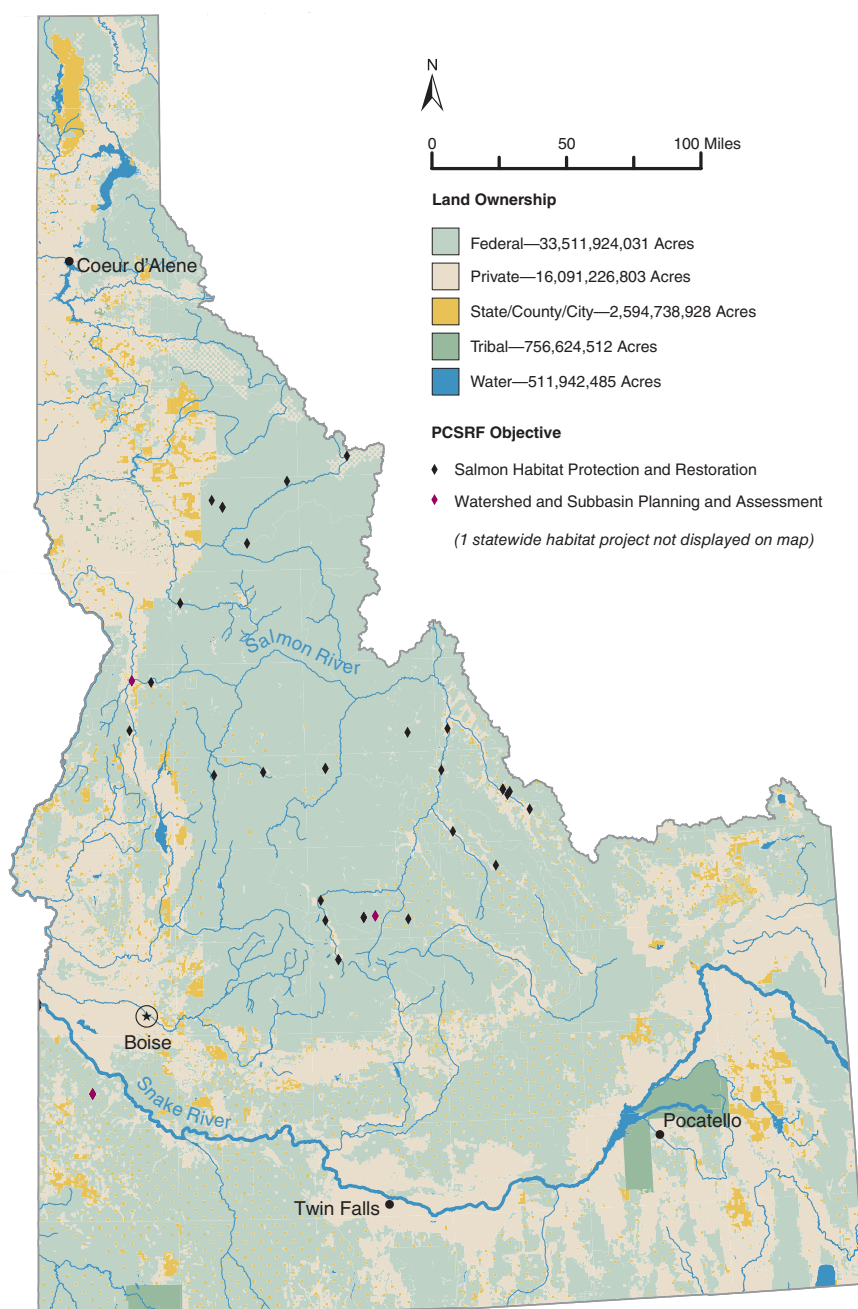


Exhibit 4-11: Location of State and Tribal PCSRF Projects in Idaho

Livestock Exclusion Fencing

A priority for PCSRF activities in central Idaho is building long-term collaborative relationships with private landowners to accomplish salmon restoration and conservation efforts in the upper Salmon River basin. Roughly 90 percent of the salmon spawning within this watershed takes place on privately owned property. The Lemhi River, in the upper Salmon River basin, provides critical habitat for migration, rearing, and spawning for Chinook salmon and steelhead. The first Idaho PCSRF project, completed in early January 2005, was the construction of a new 1,670-foot jack pole Cottom Lane fence along the Lemhi River. The fence replaced a dilapidated structure that no longer effectively excluded grazing livestock from important riparian habitat. The Lemhi Soil and Water Conservation District worked with local landowners to assemble a 30-percent cost share to match the PCSRF funds for building the new fence. The Cottom Lane fence protects a reach of the Lemhi River that is one of the primary spawning and rearing areas for the Chinook salmon and steelhead in central Idaho. A prime objective for Idaho's PCSRF activities is to establish projects on the ground as efficiently and promptly as possible. From the date of the project award notification, through contracting and permitting, to completion of fence construction, the Cottom Lane fence was on the ground in less than 5 months.



Alaska

Alaska has successfully maintained its sustainable fisheries, and therefore has no ESA-listed salmon stocks. The majority of Alaska's PCSRF funds and all of its state matching funds have been focused on watershed and other habitat assessments, salmon and salmon industry enhancement, research and assessment projects for all five species of Pacific salmon, support for watershed councils, and education projects continuing Alaska's efforts to prevent ESA listings of salmon (see Exhibit 4-12). PCSRF funds have also been used to address the effects of harvest restrictions resulting from the 1999 Pacific Salmon Treaty, a salmon management agreement between the United States and Canada. Educating and maintaining an engaged constituency for salmon in Alaska has been—and remains—a critical factor in Alaska's ability to successfully advocate for salmon conservation and sustainability.

Much of Alaska's funding is allocated according to congressional earmarks, a trend that has increased steadily since the inception of the fund. No funds were earmarked in 2000, and in 2001 congressionally-designated PCSRF funds totaled 7 percent; in 2002, 38 percent; in 2003, 57 percent; and in 2004, 100 percent. The earmarked projects have included enhancement programs, restoration of fisheries and habitat in specified areas, science-based assessment and monitoring, and sustainable salmon initiatives.

Alaska distributes non-earmarked PCSRF funds and matching state funds through an interagency review process that occurs from August through March of the following year (see Exhibit 4-13).



Before



After

Southeast Alaska Community Watershed Stewardship

In Southeast Alaska, PCSRF funds have been directed toward the Southeast Community Watershed Stewardship Project (SCWSP). The project is administered by the Southeast Conference, a regional nonprofit organization representing the interests of Southeast Alaskans, communities, and businesses in resource management and economic development issues. SCWSP consists of six watershed councils in the Southeast Alaska communities of Haines, Juneau, Kasaan, Klawock, Skagway, and Yakutat.

In one example of the project's activities, in September 2003 the Takshanuk Watershed Council (TWC) in Haines replaced the Muskrat Creek culvert. The old, deteriorated culvert crossing at the Duck Marsh Road was an impediment to the migration of juvenile coho salmon. The new culvert significantly widened the passage underneath the road, thereby restoring stream flow and increasing accessibility to anadromous fish. Shortly after the completion of the project, salmon reoccupied the upstream habitat previously obstructed by the old culvert.

About \$96 million of Alaska's PCSRF allocation and \$8.2 million in state matching funds and other resources have been committed to projects as of February 2005. These funds support the following activities:

- » Monitor 4,523 stream miles of salmon habitat.
- » Establish 84 projects for stock management purposes.
- » Produce and distribute 22,000 publications and develop a coordinated school curriculum on Alaska's wild sustainable salmon.
- » Support six active watershed councils throughout Southeast Alaska.
- » For management purposes, mark 153 million hatchery fish.

- » Reach 13,680 people and 603 community groups and other entities through education and outreach events.

The distribution of projects in Alaska is shown in Exhibit 4-14. More information about Alaska's salmon recovery efforts is available at <http://www.adfg.state.ak.us/special/sssf.php>.

Exhibit 4-12: Alaska’s Distribution of PCSRF and State Funds, FY 2000–2004

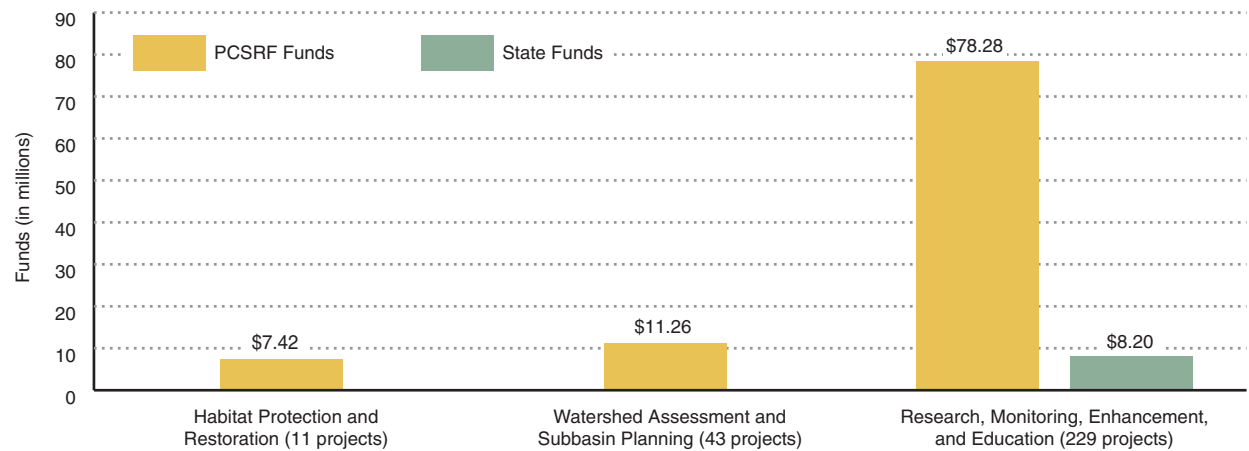


Exhibit 4-13: Alaska PCSRF Funds Distribution Timeline

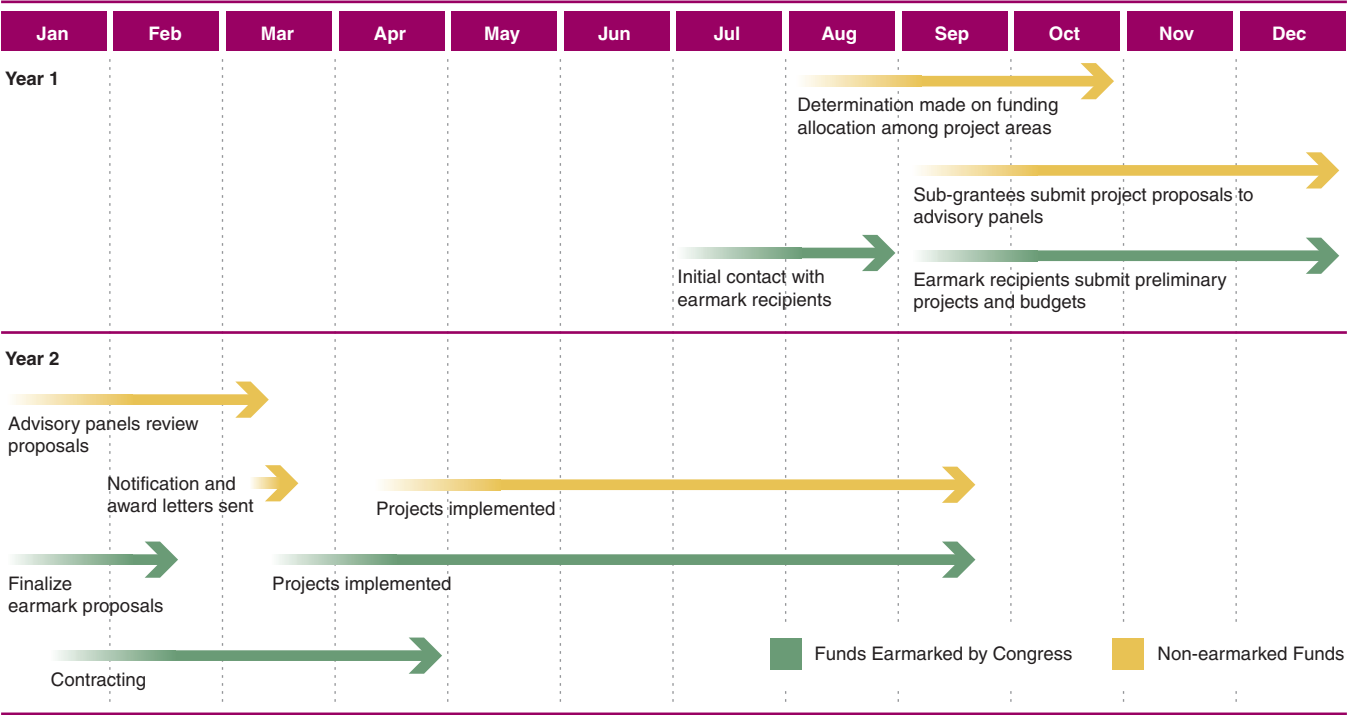
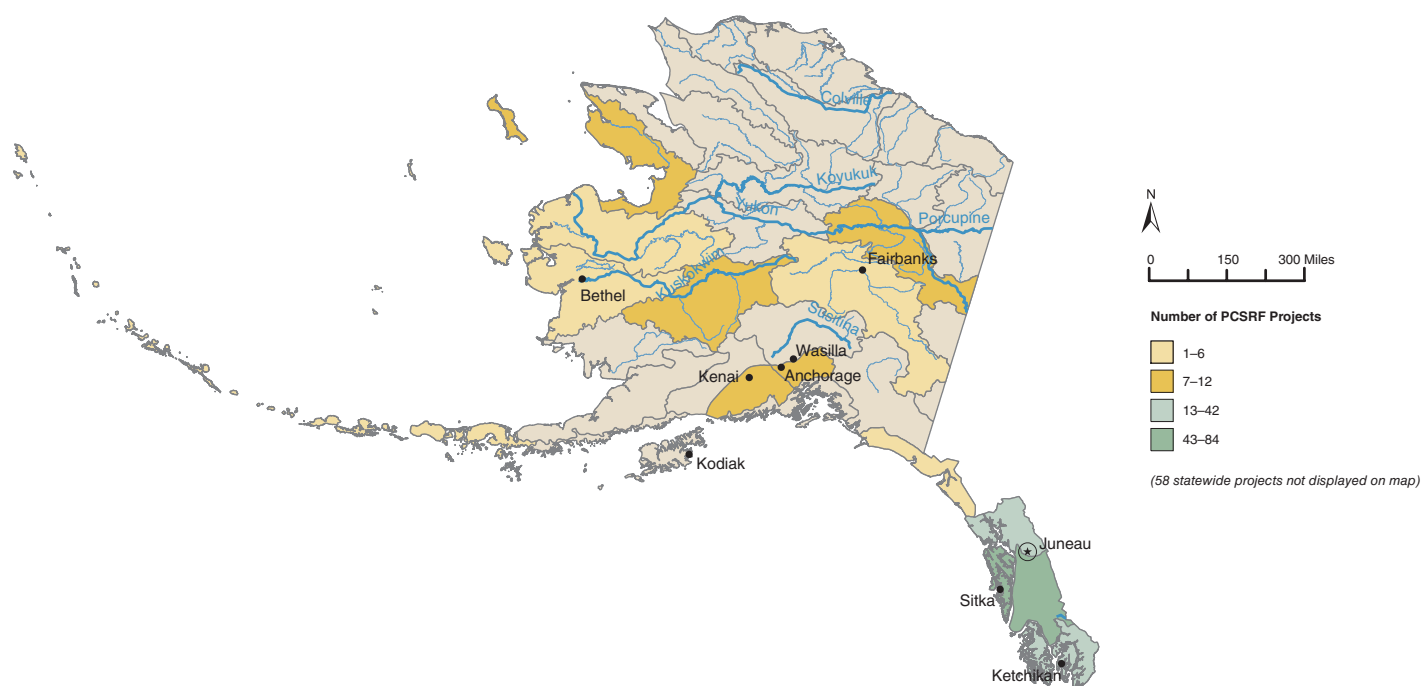


Exhibit 4-14: Distribution of State PCSRF Projects in Alaska

Columbia River Tribes

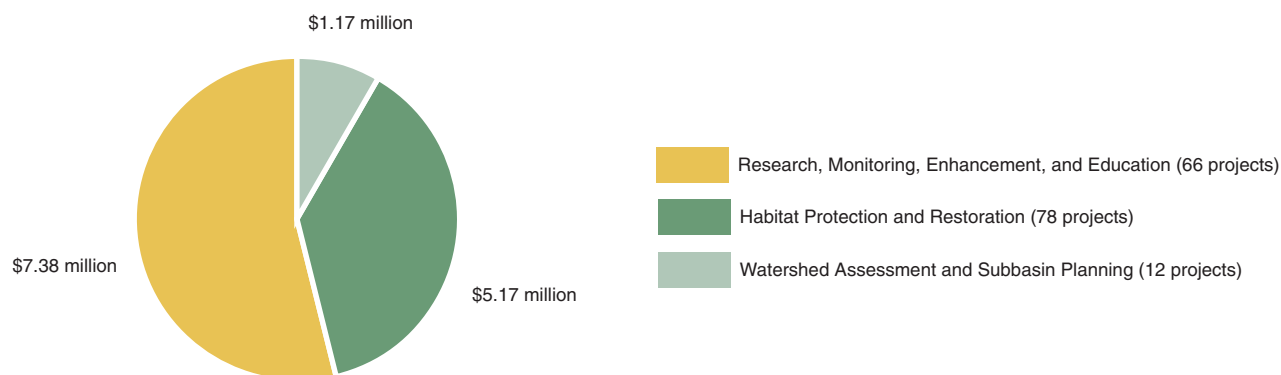
PCSRF provides funding to six Columbia River tribes or their Tribal Commission to support salmon recovery in the Columbia River basin. As of February 2005, these tribes had distributed \$13.7 million in PCSRF funds, with the majority (53 percent) supporting research, monitoring, enhancement, and education projects in the Columbia River basin, and another 38 percent supporting habitat protection and restoration projects (see Exhibit 4-15).

The Columbia River Inter-Tribal Fish Commission (CRITFC) receives the majority of PCSRF funds for Columbia River tribes. CRITFC is a technical support and coordinating agency for the fisheries management policies of the Nez Perce Tribe, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs Reservation, and Confederated Tribes and Bands of the Yakama Nation. NMFS also provides PCSRF funds directly to the Colville Confederated Tribes and the Shoshone-Bannock Tribes. The grant distribution process for the Columbia River tribes begins in June of the year following congressional appropriations and ends the following March (see Exhibit 4-16).

Columbia River tribes use PCSRF funds to support the following salmon recovery activities:

- » Treat about 695 stream miles to improve habitat conditions for salmon.
- » Remove 34 blockages to improve fish passage and thereby open 181 stream miles of habitat to salmon.
- » Restore 200 miles of stream banks in riparian habitat projects.
- » Protect 11,375 acres and about 45 stream miles of habitat through land acquisition.
- » Mark about 1.18 million hatchery fish in efforts to supplement naturally spawning salmon stocks.
- » Monitor 626 stream miles of salmon habitat.

Exhibit 4-15: Columbia River Tribes' Distribution of PCSRF Funds, FY 2000–2004





Before

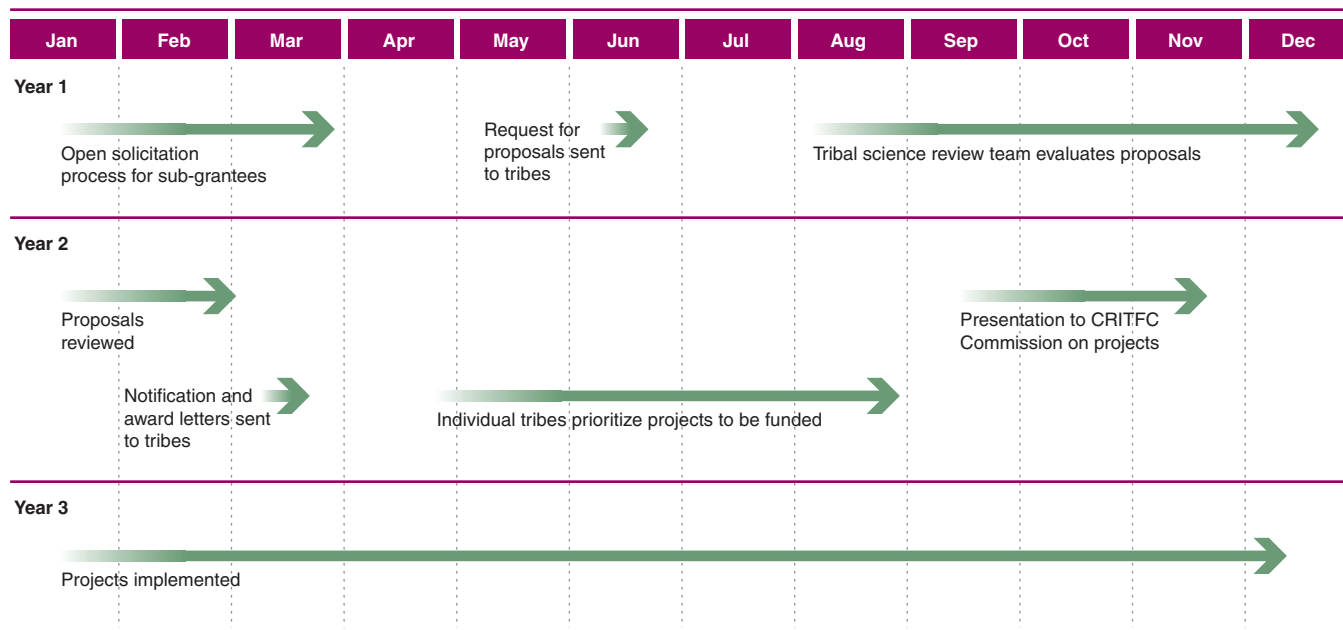


After

Fish Passage Barrier Removal

The Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO) within the Columbia River Inter-Tribal Fish Commission (CRITFC) directed PCSRF funds toward the Central Lateral Canal Fish Passage Barrier Removal project. The project, currently underway, is restoring adult and juvenile fish passage through fish screen removal and water quality treatments in Neal Creek. The project is also restoring natural instream flows in the East Fork of the Hood River. This PCSRF project is part of Phase I of the three-phase Central Lateral Canal project, a major irrigation system upgrade project that began in 1998 and is expected to be completed by the end of 2006. Neal Creek is located approximately 20 miles upstream of the Columbia River and is one of the most important mainstem tributaries to the Hood River in central Oregon. When completed, this project will restore the habitat and contribute to the survival of the coho salmon, steelhead, and cutthroat trout inhabiting the watershed.

Exhibit 4-16: CRITFC PCSRF Funds Distribution Timeline



Pacific Coastal Tribes

Tribes along the Pacific Coast in Washington, Oregon, and California have committed \$33 million in PCSRF funds toward salmon conservation and recovery since 2000. Most of these funds (47 percent) have been distributed by tribal commissions in Puget Sound and the Klamath River basin for research, monitoring, enhancement, or outreach projects (see Exhibit 4-17). About 37 percent of these funds have supported tribal watershed assessments and planning projects along the Pacific Coast, with the remainder of the funds supporting habitat protection and restoration.

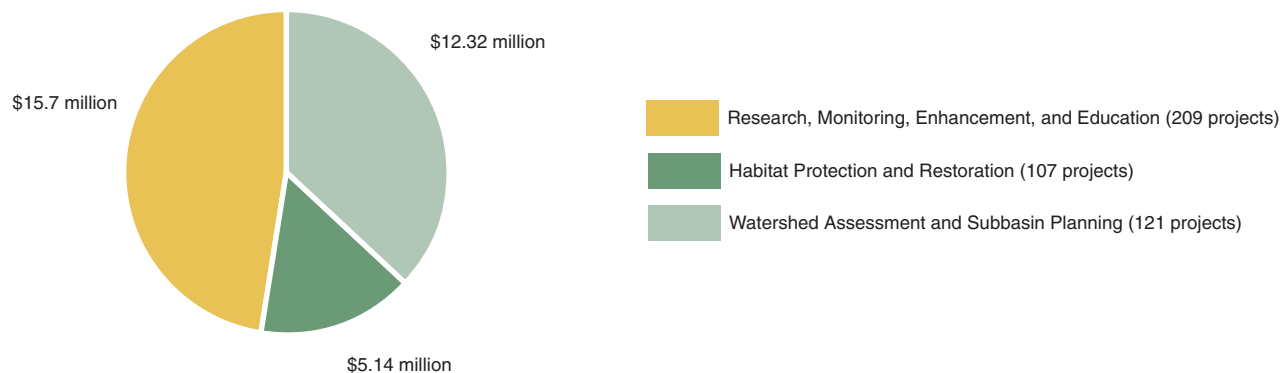
NMFS distributed PCSRF funds for Pacific coastal tribes to 29 tribes and/or their respective tribal commissions in Washington, Oregon, and California. The funding was distributed to: Northwest Indian Fisheries Commission (NWIFC) on behalf of 20 western Washington treaty Indian tribes; Klamath River Inter-Tribal Fisheries and Wildlife Commission (KRITFWC) on behalf of four Klamath River Basin tribes (Hoopa Valley Tribe, The Karuk Tribe of California, Yurok Tribe, and The Klamath Tribes); the Round Valley Indian tribes in the Eel River Basin in California; the Confederated Tribes of the Chehalis Reservation in Washington; the Coquille Indian Tribe in Oregon; the Confederated Tribes of Grand Ronde in Oregon; and the Confederated Tribes of the Siletz Indians of Oregon. (PCSRF funds were initially provided directly to the Yurok, Hoopa Valley, and Klamath Tribes; however, these tribes joined with the Karuk Tribe to have the KRITFWC obtain PCSRF funding on behalf of all four Klamath Basin tribes starting in FY 2001.)

The NWIFC is the western Washington inter-tribal organization created in 1974 to assist tribes party to U.S. v. Washington in conducting biologically sound fisheries and providing a unified voice on fisheries management and conservation issues. NWIFC member tribes receiving PCSRF funds are the Nisqually, Squaxin Island, Puyallup, Jamestown S’Klallam, Port Gamble S’Klallam, Lower Elwha Klallam, Skokomish, Swinomish, Sauk-Suiattle, Upper Skagit, Tulalip, Makah, Stillaguamish, Muckleshoot, Suquamish, Nooksack, Lummi, Hoh, Quinalt, and Quileute tribes. NWIFC subgrants to member tribes are typically awarded in March of the year following the congressional appropriations to NOAA (see the timeline in Exhibit 4-18).

Pacific Coastal tribes are using FY 2000–2004 PCSRF funds to support the following activities benefiting salmon conservation and recovery:

- » Treat about 131 stream miles of habitat in habitat restoration projects.
- » Remove 38 fish passage blockages and thereby open about 12 stream miles of habitat to salmon.
- » Acquire 188 acres of land to protect salmon habitat.
- » Conduct 55 limiting factor assessments in salmon-bearing watersheds.
- » Monitor 3,383 stream miles of salmon habitat.

Exhibit 4-17: Pacific Coastal Tribes’ Distribution of PCSRF Funds, FY 2000–2004





Before



After

Side Channel and Floodplain Restoration

Swinomish and Sauk-Suiattle tribes restored one mile of unsuitable salmon rearing habitat in Bacon Creek in the Skagit River watershed in Washington. The deterioration of salmon habitat along Bacon Creek was a result of road development and alteration of the course of the river. The road construction led to a straightening of the riverbank and a loss of side channels along the river that are critical to salmon rearing. The PCSRF project for Bacon Creek included removing the road along the river, placing a new road farther from the water, and restoring the river's natural course. In addition to replacing the side channels along the river bank, the restoration work allowed Bacon Creek to spread across its natural flood plain to improve habitat in the stream's main stem.

Bacon Creek is extremely important for salmon, including Skagit River Chinook salmon, listed as “threatened” under the federal Endangered Species Act. Bacon Creek and Illabot Creek are the two most productive tributaries of the Skagit River. The Skagit River is home to the largest Chinook salmon run north of the Columbia River.

Exhibit 4-18: NWIFC PCSRF Funds Distribution Timeline

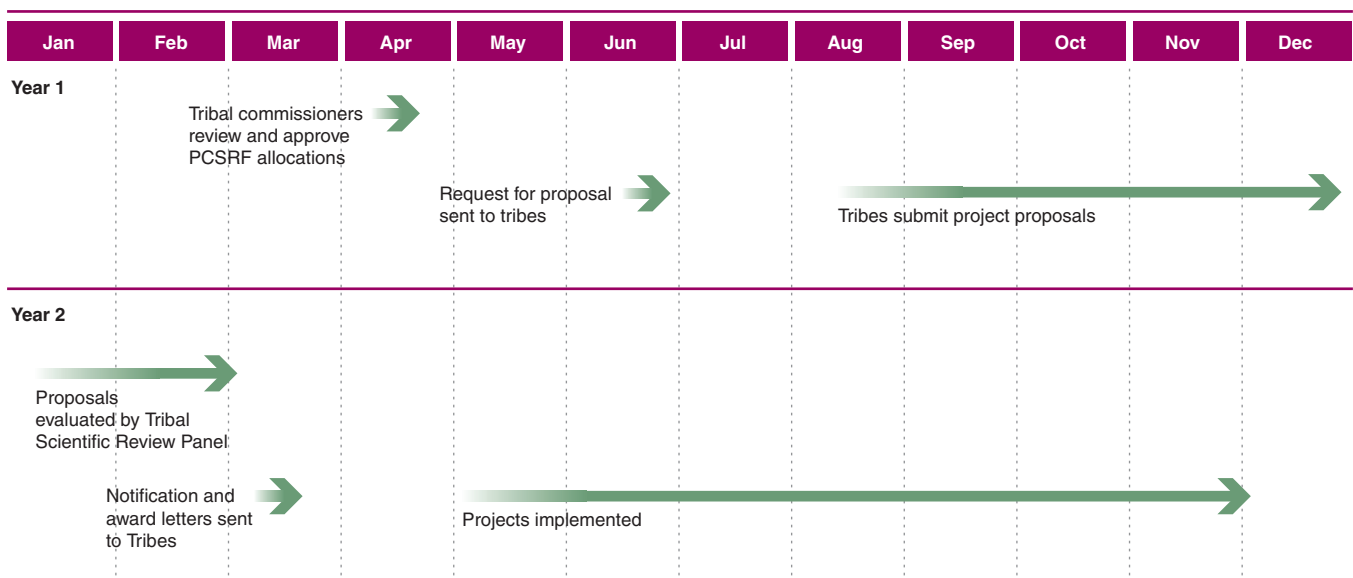


Exhibit 5-1: Distribution of PCSRF Projects Throughout the Region

